

WHAT IS CLAIMED IS:

1. A photothermographic material, comprising at least a photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent and a binder on at least one surface of a support,

wherein the photosensitive silver halide contains at least two kinds of photosensitive silver halides having respective sensitivities different from each other for a light with the same exposure wavelength and a silver iodide content of the photosensitive silver halide is 5% by mole or more.

2. The photothermographic material according to claim 1, wherein a silver iodide content of the photosensitive silver halide is 40% by mole or more.

3. The photothermographic material according to claim 1, wherein a difference in sensitivity between the at least two kinds of photosensitive silver halides is 0.3 or more and 1.0 or less in terms of log E.

4. The photothermographic material according to claim 1, wherein the maximum density of a photographic characteristic curve obtained by exposure and thermal development of the photothermographic material is 3.0 or more, and a γ value at a density of 0.5 is 0.8 or more and 1.8 or less and a γ value at a density of 1.0 is 2.2

or more and 3.8 or less.

5. The photothermographic material according to claim 1, wherein the at least two kinds of photosensitive silver halides have respective average grain sizes, which are different from each other.

6. The photothermographic material according to claim 5, wherein the average grain sizes of the photosensitive silver halides are 5 nm or more and 100 nm or less.

7. The photothermographic material according to claim 5, wherein a difference in average grain size between the at least two kinds of photosensitive silver halides is 20 nm or more and less than 95 nm.

8. The photothermographic material according to claim 1, comprising a compound that can be one-electron-oxidized to provide a one-electron oxidation product, which releases one or more electrons.

9. The photothermographic material according to claim 1, wherein at least one kind of the photosensitive silver halide is chemically sensitized.

10. The photothermographic material according to claim 1, comprising a compound expressed by the following general formula (PO) :

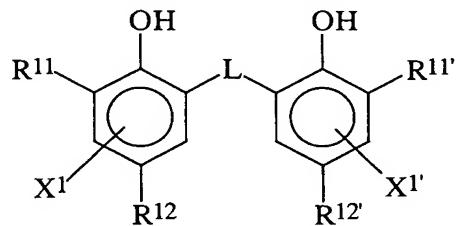
General formula (PO)

$$Q = (Y)_n = C(Z_1)(Z_2)X$$

wherein Q represents a heterocyclic group, Y represents a divalent linkage group, n represents 0 or 1, Z₁ and Z₂ each independently represents a halogen atom, and X represents a hydrogen atom or an electron-withdrawing group.

11. The photothermographic material according to claim 1, wherein the binder is a polymer latex.

12. The photothermographic material according to claim 1, further comprising a compound expressed by the following general formula (R) :



wherein R¹¹ and R^{11'} each independently represents an alkyl group having 1 to 20 carbon atoms, R¹² and R^{12'} each independently represents a hydrogen atom or a group capable of substituting for a hydrogen atom on a benzene ring, L represents a -S- group or a -CHR¹³- group, R¹³ represents a hydrogen atom or an alkyl group having 1 to 20 carbon atoms, and X and X¹ each independently represents a hydrogen atom or a group capable of substituting for a hydrogen atom on a benzene ring.

13. The photothermographic material according to

claim 1, comprising a developing accelerator.

14. The photothermographic material according to claim 1, comprising a hydrogen bonding compound.

15. An image forming method of a photothermographic material, in which the photothermographic material according to claim 1 is in a sheet-like shape, a part of the sheet is exposed and, in parallel with the exposure, development is started on a part of the sheet having been already exposed.

16. The image forming method according to claim 15, wherein the thermal development is started on the sheet within 60 sec after exposure.

17. The image forming method according to claim 15, wherein the thermal development is started on the sheet within 15 sec after exposure.

18. The image forming method according to claim 15, employing an image recording apparatus having at least the following portions (A) to (D):

(A) a laser irradiation portion scanning the photothermographic material with laser beam based on image data to expose the same;

(B) a transport portion transporting the photothermographic material in the laser irradiation portion;

(C) a thermal developing portion, disposed on the

side downstream from the transport portion, and in which a part of one sheet of the photothermographic material in a sheet-like shape is exposed by the laser irradiation portion and simultaneously a part of the photothermographic material in a sheet-like shape having been already exposed is developed by heating; and

(D) a guide portion, provided between the transport portion and the thermal developing portion, and allowing a flexion of the photothermographic material generated by a difference between a transport speed in the transport portion and a transport speed in the thermal developing portion.

19. The image forming method of the photothermographic material according to claim 18, wherein $0.7 < V_2/V_1 \leq 1.0$ is, wherein V_1 is a transport speed in the transport portion and V_2 is a transport speed in the thermal developing portion.